



U.S. Department  
of Transportation

400 Seventh Street, S.W.  
Washington, D.C. 20590

**Research and  
Special Programs  
Administration**

**IAEA CERTIFICATE OF COMPETENT AUTHORITY  
SPECIAL FORM RADIOACTIVE MATERIALS  
CERTIFICATE NUMBER USA/0165/S, REVISION 6**

This certifies that the sources described have been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency<sup>1</sup> and United States of America<sup>2</sup> for the transport of radioactive materials.

1. Source Identification - AEA Technology QSA, Inc. Model Nos. A424-2 through A424-19 (excluding A424-6 through A424-9) and A453-1 through A453-10 (excluding A453-3 and A453-4).
2. Source Description - Cylindrical single or double encapsulations made of Type 304 or 304L stainless steel and seal welded. Approximate external dimensions are between 6.35 mm (0.25 in.) to 12.07 mm (0.48 in.) in diameter and between 23.8 mm (0.937 in.) to 40.33 mm (1.588 in.) in length. Each capsule assembly is connected to a source wire and connector assembly for use in radiographic instruments. Construction shall be in accordance with attached Technical Operations Inc. Drawing No. 60060, Sheets 2 and 3.
3. Radioactive Contents - No more than the following listed values of Cobalt-60 in solid metal form.

<u>Model</u>	<u>Capsule Style</u>	<u>Activity (TBq/Ci)</u>
A424-2	60011, 60001	0.81/22
A424-3	60011, 60001	0.81/22
A424-4	60011, 60000	2.04/55
A424-5	60011, 60001	0.22/6
A424-10	60011, 60004	0.22/6
A424-11	60011, 60004	2.04/55
A424-12	60011, 60004	4.07/110
A424-13	60012, 60002	12.22/330
A424-14	60011, 60004	4.07/110
A424-15	60011, 60004	0.41/11
A424-16	60011, 60000	2.04/55
A424-17	60011, 60000	2.04/55
A424-18	60011, 60000	1.22/33
A424-19	60001, 60004	0.004/0.11

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<sup>1</sup> "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

<sup>2</sup> Title 49, Code of Federal Regulations, Parts 100 - 199, United States of America.

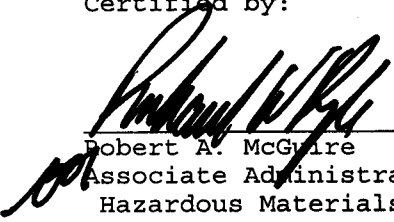
CERTIFICATE USA/0165/S, REVISION 6

<u>Model</u>	<u>Capsule Style</u>	<u>Activity (Tbq/Ci)</u>
A453-1	60011, 60000	4.07/110
A453-2	60012, 60002	6.11/165
A453-5	60012, 60002	20.37/550
A453-6	60013, 60003	40.74/1100
A453-7	60011, 60000	4.07/110
A453-8	60011, 60000	2.04/55
A453-9	60011, 60000	2.04/55
A453-10	60011, 60000	2.04/55

4. Quality Assurance - Records of Quality Assurance activities required by paragraph 310 of the IAEA regulations<sup>1</sup> shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors and consignees in the United States exporting or importing shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires on September 30, 2008. On December 31, 2003, this certificate supersedes, in its entirety, all previously issued revisions of USA/0165/S.

This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the petition and information dated August 18, 2003 submitted by AEA Technology QSA, Inc., Burlington, MA, and in consideration of other information on file in this Office.

Certified by:

  
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Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

SEP 15 2003

\_\_\_\_\_  
(DATE)

Revision 6 - Issued to update to 1996 TS-R-1 Revision and current corporate name, and correct stated length error.

A60060

REV.

DATE

DESCRIPTION

INNER CAPSULE:

A60011-1  
A60011-2  
A60011-3  
A60011-4  
A60011-5

.250 DIA  
.249

OUTER CAPSULE  
A60011-6

OUTER PLUG  
A60011-6

60011

INNER CAPSULE:

A60012-1  
A60012-2  
A60012-3

.350 DIA  
.349

OUTER CAPSULE  
A60012-4

OUTER PLUG  
A60012-4

60012

INNER CAPSULE  
B60013-5

.476 DIA  
.475

OUTER CAPSULE  
B60013-3

OUTER PLUG  
B60013-4

60013

MATERIALS



TECHNICAL OPERATIONS INC.  
RADIATION PRODUCTS DIVISION  
BURLINGTON, MA 01803

FINISH

DWG TITLE

60  
COBALT SOURCE REFERENCE  
(DOUBLE ENCAPSULATION)

DRAWN BY

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE

CHECKED BY

APPROVED BY

.X ±  
.XX ±  
.XXX ±  
ANGLES ±  
FRACTIONS ±

CLASSIFICATION

SIZE

DWG. NO.

REV.

A

60060

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SCALE 2:1

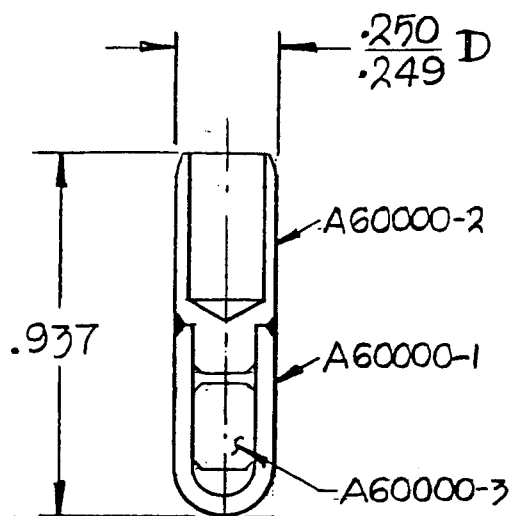
SHEET 2 OF 3

A60060

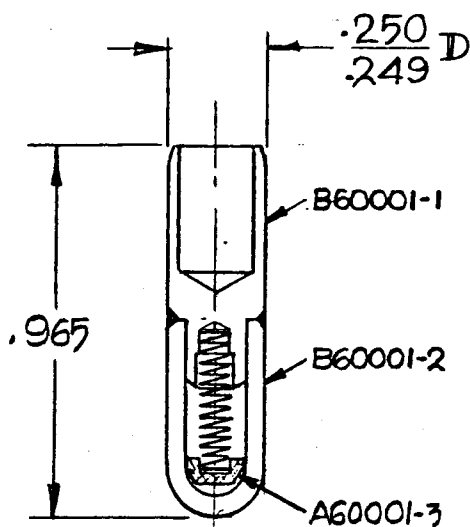
REV.

DATE

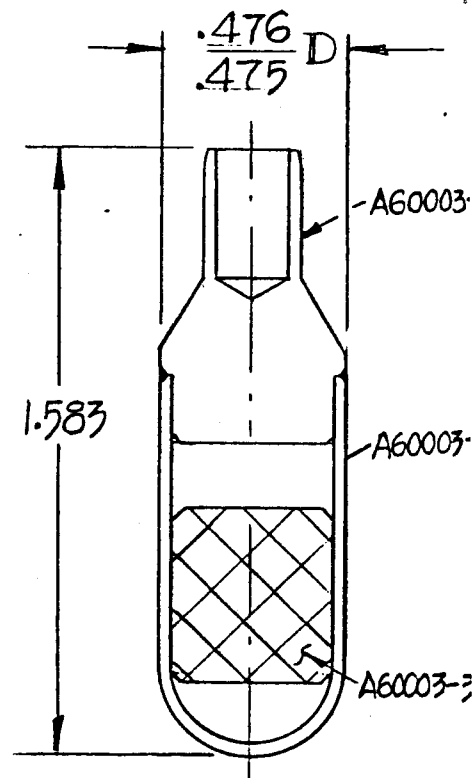
DESCRIPTION



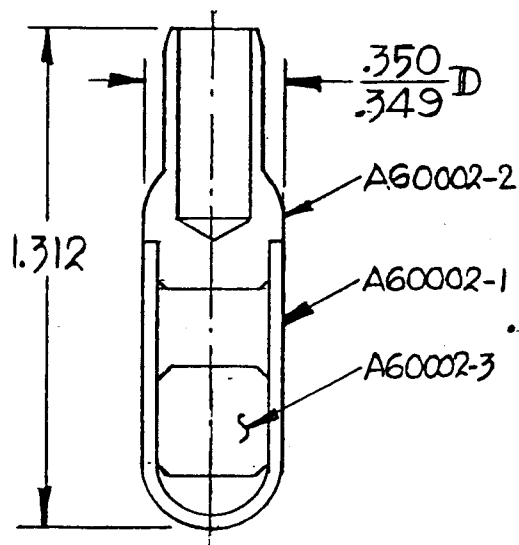
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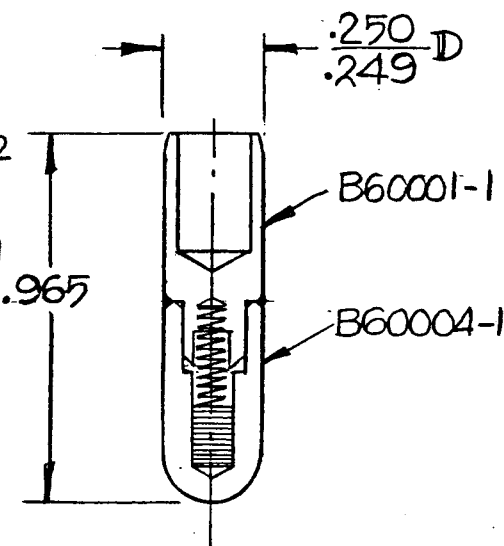
B60001



B60003



B60002



B60004

MATERIALS

FINISH

DRAWN BY

CHECKED BY

APPROVED BY

UNLESS OTHERWISE  
SPECIFIED TOLERANCES ARE

.X ±

.XX ±

.XXX ±

ANGLES ±

FRACTIONS ±



TECHNICAL OPERATIONS INC.  
RADIATION PRODUCTS DIVISION  
BURLINGTON, MA 01803

DWG TITLE

COBALT <sup>60</sup> SOURCE REFERENCE  
(SINGLE ENCAPSULATION)

CLASSIFICATION

SIZE

DWG. NO.

A

60060

REV

SCALE 2:1

SHEET 3 OF 3